Biological Molecule Quiz

Multiple Choice Section

1. When glucose forms a ring, there are two possible arrangement of the –OH group. What type of glucose has the –OH group is pointed down?
   1. β – glucose
   2. ϒ – glucose
   3. α – glucose
   4. D – glucose
2. Which lipid forms into four carbon rings?
   1. Fats
   2. Fatty Acids
   3. Waxes
   4. None of the above
3. Which protein layer provides the overall 3-D shape and is critical to its function?
   1. Primary Structure
   2. Secondary Structure
   3. Tertiary Structure
   4. Quaternary Structure
4. Which of the following is not a pyrimidine?
   1. Cytosine
   2. Adenine
   3. Uracil
   4. Thymine
5. Which of the following pairs form lactose?
   1. Galactose + glucose
   2. Glucose + glucose
   3. Fructose + glucose
   4. Galactose + fructose

Short Answer Section

1. Contrast saturated and unsaturated fatty acids.

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|  | Saturated Fatty Acids | Unsaturated Fatty Acids |
| Structure | * Linear in shape as all the carbons are linked through single bonds * Solid at room temperature as they compact easily | * Bendy/tend to fold because some carbons are linked together through double bonds * Liquid at room temperature as they do not compact easily |
| Sources | * Usually found in warm-blooded animals | * Usually found in cold-blooded animals and plants |

* Unsaturated fatty acids are considered healthier for humans than saturated fatty acids

1. Name four types of proteins, its functions and examples of each.

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| **Types** | **Function** | **Example** |
| Structural | Framework support | Hair, tendons, ligaments |
| Defensive | Infection fighters | Antibodies |
| Signal | Messengers | Hormones |
| Carrier | Transports materials | Hemoglobin |
| Recognition and receptors | Cellular makers | Major histocompatibility complex |
| Enzyme | Catalyst | Amylase |
| Motile | Movement | Actin and myosin |